

In response to the rejection of Claims 4-6 under 35 USC §112, 2nd para., Claim 4 has been amended to clarify that the elevator mechanism moves down the lower electrode to a position --where the mounting portion-- faces the opening portion. Accordingly, the objected to language has been clarified and Claims 4-6 are believed to be definite under the statute. If the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually satisfactory claim language.

In light of the several grounds for rejection on the merits, Claim 1 has been amended to recite that the treatment chamber is conductive and that the conductive wall body is fixed to the conductive chamber, consistent with the exemplary embodiment shown in Figure 1, for example. Also, new Claims 11-13 reciting further details of the exemplary embodiments are newly submitted. No new matter has been added.

Before discussing the grounds for rejection on the merits, it is believed that a brief review of Applicants' invention would be helpful.

In particular, as disclosed from page 2, line 26, to page 3, line 3 of the specification, it is described that Applicants' invention is directed to the problem of a ground return current. None of the prior art references recognize or address themselves to such a problem.

In order to ameliorate the problem of ground return current, Applicants' invention includes a conductive wall body (a baffle plate 138 and a cylindrical member 140 as disclosed in the non-limiting embodiments) which divides a chamber into a discharge space and an exhaust space. The conductive wall body is electrically connected to the chamber.

The Outstanding Office action states the position that Tomoyasu et al. largely discloses the subject matter of Claim 1, but acknowledges that Tomoyasu et al. do not disclose "electrically connecting the inner wall and the wall body". In Tomoyasu et al. a ring 325 and baffle plate 326 correspond to the conductive wall body of Applicants' invention.

However, Tomoyasu et al. disclose on lines 51-58 of column 13 that the ring 325 is made of an insulating material. Therefore, it is meaningless to electrically connect the ring 325 of insulating material to a chamber.

Further, in Tomoyasu et al. a bellows 322 (corresponding to the conductive member of Applicants' invention in the non-limiting embodiments) is connected between a chamber 302 and a susceptor 305. If the bellows 322 is conductive as in the case of Applicants' invention, the susceptor 305 is grounded. Accordingly, the bellow 322 cannot function as the conductive member of Applicants' invention.

Kawakami et al. provides a contact finger 30 so that a processing chamber 5 and a lower electrode supporter 11 can be continuously electrically connected even if they move vertically. The Kawakami et al. structure aims to form a stable RF circuit irrespective of a relative positional relationship between the lower electrode supporter and the conductive wall of the processing chamber. Hence, the purposes are different between Applicants' invention and Kawakami et al. Accordingly, even if the contact finger of Kawakami et al. is adapted to Tomoyasu et al., Applicants' invention is not rendered obvious.

In addition, if the ring 325 of Tomoyasu et al. is made of a conductive material and the contact finger of Kawakami et al. is electrically connected thereto, the contact finger and the inner wall are worn due to a drive of the susceptor 305, as a result of which, particles may occur. In view of these deficiencies in the Tomoyasu et al and Kawakami et al. references, which deficiencies are not believed to be remedied by the Arami et al. and Washitani et al. references, it is respectfully submitted the pending amended and newly submitted claims patentably define over the art of record.

Consequently, in view of the present amendment and the above comments, Claims 1-13 are believed to be in condition for formal allowance, and an early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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IN THE CLAIMS

Please amend Claims 1 and 4 as follows:

1. (Amended) A plasma treatment apparatus comprising:
an airtight treatment chamber which is conductive;
a lower electrode including a mount portion on which an object is to be mounted, the
lower electrode being movable up and down in the treatment chamber;
a power supply system to supply high-frequency power to the lower electrode;
an elevator mechanism to move the lower electrode up and down;
a conductive wall body substantially surrounding the elevator mechanism in close
proximity and forming a path reaching to a floor portion of the treatment chamber, the
conductive wall body being fixed to the conductive chamber.

4. (Amended) A plasma treatment apparatus according to claim 3, wherein the
elevator mechanism moves down the lower electrode to a position [opposing to] where the
mounting portion faces the opening portion.

Claims 11-13 (New)